



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,710	01/28/2002	Mark E. Holzbach	M-8621-1D US	7765

33031 7590 03/25/2003

CAMPBELL STEPHENSON ASCOLESE, LLP
4807 SPICEWOOD SPRINGS RD.
BLDG. 4, SUITE 201
AUSTIN, TX 78759

EXAMINER

CURTIS, CRAIG

ART UNIT	PAPER NUMBER
----------	--------------

2872

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
10/058,710

Applicant(s)
HOLZBACH et al.

Examiner
Craig Curtis

Art Unit
2872



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 3, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2872

DETAILED ACTION

Disposition of the Instant Application

- This Office action is responsive to Applicants' Preliminary Amendment A filed on 3 February 2003, which has been made of record in the file as Paper No. 2.
- By this amendment, Applicants have canceled claims 12-17 and amended claims 10 and 11. Claims 1-11 currently are pending in the instant application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- I. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, proper antecedent basis has not been provided for the limitation "...said z axis..." recited in the claims. (Claim 1, line 17, claims 2-9 inheriting this deficiency; claim 10, line 11; and claim 11, line 12).

Art Unit: 2872

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halle et al.'s "Fast Computer Graphics Rendering for Full Parallax Spatial Displays" (Feb. 1997).

With regard to claim 1, Halle et al. disclose the invention as claimed--a computer-implemented method of rendering data for producing a full parallax autostereoscopic display of a digital scene (See title), comprising the steps of:

- defining an image plane that passes through at least a portion of said scene (Abstract & Fig. 1);
- dividing the image plane into a plurality of contiguous image elements (p. 107);
- simulating two camera frustra on opposing sides of said image plane, each camera frustrum having an associated eyepoint (See Fig. 4);
- defining a near clipping plane of said frustra on said image plane (See pp. 109-110; Fig. 5);
- generating, for each of said elements, image data for each of said cameras (Id.); and
- combining said image data, thereby rendering said scene (Id.)--EXCEPT FOR explicit teachings of the following method steps: for each image element, determining a distance between said eyepoint and said near clipping plane that would avoid near clipping of said scene, thereby determining a set of

Art Unit: 2872

near clipping plane distances; and positioning said camera frustra along said z axis in accordance with one or more of said near clipping plane distances. These method steps, however, if not inherently or explicitly taught by Halle et al., certainly would have been obvious to have performed (*read*: implement) by one having ordinary skill in the stereographic computer graphic art at the time the instant invention was reduced to practice (in light of the overall teachings explicitly disclosed by Halle et al.: esp. Section 4, "Clipping Planes," as well as Fig. 5), for at least the purpose of rendering said scene in a manner that achieves a desired image.

With regard to claim 2, Halle et al. additionally disclose wherein said method is performed to produce holograms, and wherein said generating step provides holographic image data. (See Abstract & Fig. 6)

With regard to claim 3, Halle et al. additionally disclose wherein said positioning step provides a single non-clipping plane distance for all of said elements. (See Fig. 5)

With regard to claim 4, Halle et al. additionally disclose wherein said positioning step provides near clipping plane distances within a predetermined range. (See Section 4, pg. 109)

With regard to claim 5, Halle et al. disclose the step of identifying degenerate elements for which said determining step will not result in avoiding clipping (said step of determining a set of near clipping plane distances necessarily encompassing such a teaching).

With regard to claims 6 & 7, Halle et al. implicitly disclose wherein said method is performed to produce a hologram, and further comprises the step of rendering image data for said degenerate

Art Unit: 2872

elements by special compositing of images from said camera frustra in a direction parallel to said image plane. (See Fig. 6 & entire document)

With regard to claim 8, Halle et al. further teach wherein said scene is comprised of polygons, and said determining step compares z vertices of said polygons with a z distance of said clipping plane. (See Table I & Sections 4-8)

With regard to claim 9, Halle et al. further teach (if not explicitly, then certainly impliedly) a step of evaluating said image data for depth resolution and compensating said image data based on said evaluating step. (See p. 109, ¶13, lines 3-5 & Section 3)

With regard to claims 10 & 11, the preambles recited in these claims have not been afforded patentable weight since neither of the respectively recited limitations (i.e., "A full parallax autostereoscopic print of a digital scene..." & "A computer-readable medium...") are recited in the body of their associated claim. Moreover, even if such were not the case, such limitations would amount to obvious applications of the method teachings of Halle et al. set forth hereinbefore, for at least the purpose of recording and preserving, respectively, hardcopy and electronic versions of image data generated via said method.

Art Unit: 2872

Contact Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Curtis, whose telephone number is (703) 305-0776. The facsimile phone number for Art Unit 2872 is (703) 308-7721.

Any inquiry of a general nature regarding the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Audrey Chang', with a large, sweeping initial 'A'.

**Audrey Chang
Primary Examiner
Technology Center 2800**

A handwritten signature in black ink, appearing to read 'Craig H. Curtis'.

**Craig H. Curtis
Group Art Unit
20 March 2003**